

What is claimed is:

1. An adjustable pinhole for the illumination beam path and/or detection beam path of a laser scanning microscope, comprising that the pinhole is defined by foil edges which are adjustable relative to one another.

2. The adjustable pinhole according to claim 1, wherein at least two foils, each with at least one straight edge, are arranged relative to one another and/or connected to one another in such a way that their edges describe an L-shape and the L-shaped connection pieces are arranged on one another in such a way that they define a rhombic or square light passage and are moved relative to one another for adjusting the pinhole.

3. The adjustable pinhole according to claim 2, wherein the movement direction is the direction of the bisecting line of the angle defined by the L-shape or of another angle lying within the defined angle.

4. An adjustable pinhole for the illumination beam path and/or detection beam path of a laser scanning microscope, comprising:

at least two foils, each with at least one straight edge, being connected to one another in such a way that their edges form a small angle, preferably at 4 degrees relative to one another, and

two such pairs of foils being displaced relative to one another perpendicularly or at an angle for pinhole adjustment.

5. An adjustable pinhole for the illumination beam path and/or detection beam path of a laser scanning microscope, comprising:

at least two foils, each with at least one straight edge, being so disposed that their edges form a small angle, preferably at 4 degrees relative to one another, and

two such pairs of foils being displaced relative to one another in opposite directions or in the same direction.

6. An adjustable pinhole, comprising:

two partially coated transparent carriers which are displaced relative to one another;
and

coatings of the carriers having angle segments which together define the pinhole.

7. The adjustable pinhole according to claim 6, wherein Teflon strips and/or an immersion liquid are/is provided between the carriers.

8. An adjustable pinhole comprising:
an arrangement of levers which are adjustable relative to one another, wherein there is arranged between first levers a rhombic arrangement of at least four second levers which are adjustable relative to one another, each of which levers carries a foil piece with a foil edge arranged diagonal to the path of the levers.

9. The adjustable pinhole according to claim 1, wherein the foils have solid-state joints.

10. The adjustable pinhole according to claim 1, wherein solid-state joints which are driven by motor are provided for adjusting the foil edges.

11. The adjustable pinhole according to claim 1, wherein an adjustment is carried out by a stepping motor which drives, preferably by two spindles running in the same direction, plates which are displaceable preferably at different pitches, the foils being fastened to the plates.

12. The adjustable pinhole according to claim 1, wherein a referencing of the stepping motor drive is carried out by means of a path measuring system and/or an optical detector for detecting the amount of light passing through the pinhole.

13. The adjustable pinhole according to claim 1, wherein the pinhole can be closed in such a way that the foils overlap.

14. The adjustable pinhole according to claim 1, wherein at least one pair of foils has an offset to prevent collision.

15. A process for manufacturing an adjustable pinhole, comprising the step of producing foil edges defining the pinhole by cutting the foil material in a straight line individually or in composite on at least one side.

16. The process for manufacturing an adjustable pinhole according to claim 15, wherein the foil edges are treated, preferably by grinding, subsequent to cutting in order to increase accuracy.